IMPLEMENTATION TEAM MEETING NOTES

February 5, 2004, 9:00 a.m.-4 p.m.

NATIONAL MARINE FISHERIES SERVICE OFFICES
PORTLAND, OREGON

I. Greetings, Introductions and Review of the Agenda.

The February 5, 2004 meeting of the Implementation Team, held at the National Marine Fisheries Service's offices in Portland, Oregon, was chaired by Jim Ruff of NMFS and facilitated by Donna Silverberg. The meeting agenda and a list of attendees are attached as Enclosures A and B.

The following is a distillation (not a verbatim transcript) of items discussed at the meeting, together with actions taken on those items. Please note that some enclosures referenced in the body of the text may be too lengthy to attach; all enclosures referenced are available upon request from NMFS's Kathy Ceballos at 503/230-5420 or via email at kathy.ceballos@noaa.gov.

Silverberg welcomed everyone to the meeting, led a round of introductions and a review of the agenda.

2. Updates.

A. In-Season Management (TMT). Cindy Henriksen said TMT met yesterday; although the lengthy summer spill presentation precluded much discussion of the status of the system, the January final water supply forecast is now available, and shows a slightly below-average forecast across the basin. At Grand Coulee, the January-July forecast is now 61.7 MAF, 98% of normal; at Lower Granite, the April-July forecast is now 19.8 MAF, 92% of normal; at The Dalles, the January-July forecast is now 103 MAF, 96% of average. Based on that forecast, the variable seasonal flow objectives for Lower Granite would be 99 Kcfs for the spring and 51 Kcfs for the summer; at McNary, the spring flow objective is anticipated to be about 250 Kcfs.

Henriksen said the February early-bird water supply forecast is now available; according

to this forecast, the Grand Coulee water supply is unchanged from the January final forecast, Lower Granite's forecast increased by 1 MAF, while The Dalles forecast decreased by 1 MAF. In other words, said Henriksen, not much change from the January final. The storage reservoirs are all being operated to meet their various flood control elevations, currently. Libby is releasing minimum outflow in an effort to fill the project to its VARQ flood control elevation. Hungry Horse is operating to meet Columbia Falls minimum flow. Grand Coulee is operating for power needs; Dworshak is refilling toward its April 10 flood control elevation. The January final water supply forecast for Dworshak was in the normal range, said Henriksen, so a Dworshak/Grand Coulee flood control storage swap is possible in spring 2004.

Henriksen said the fall/winter update to the 2004 Water Management Plan has now been completed, and all comments received have been incorporated into the document. We will be starting to work on the spring/summer update at the next TMT meeting, she said. Also, she said, at yesterday's TMT meeting, we had a useful discussion on the summer spill evaluation.

B. Independent Scientific Advisory Board (ISAB). No ISAB report was presented at today's meeting.

C. Water Quality Team (WQT). No WQT update was presented at today's meeting.

D. System Configuration Team (SCT). Ruff noted that the SCT has met twice in the past week to discuss the additional savings and slippage (22.5%, compared to the usual 16%) the Corps plans to apply to the FY'04 Columbia River Fish Mitigation (CRFM) budget. The SCT has been discussing which program measures will have to be reduced or deferred in FY'04, said Ruff; they met yesterday, and my understanding of the outcome of that meeting was that the SCT was able to reach agreement on a revised FY'04 CRFM program. Ruff noted that the FY'04 CRFM budget was set by Congress at $85 million; however, once savings and slippage is applied at the increased rate, the Corps only has about $70 million to spend.

Kim Fodrea noted that the agreement was that work on the John Day North Shore auxiliary water supply system (AWS) will be deferred, as will work on the Lower Snake River JBS improvements project, the Lower Monumental flow deflector follow-up project, the John Day biological studies project and the Ice Harbor turbine survival program. The Lower Monumental JBS outfall and divider wall work was reduced in scope.

The SCT also discussed whether and how best to evaluate the Lower Granite behavioral guidance structure, Fodrea said; you may recall that that structure is being modified and moved to a different location, but it looks as though we will have to defer the monitoring work we had planned for 2004 until 2005. Fodrea said work on the Lower Monumental juvenile PIT-tag detection system will also be deferred.

Bill Hevlin added that, in order to be able to move the Lower Granite BGS in and out of place during a 2004 evaluation, the Corps needs to find $200,000 from somewhere within the FY'04 CRFM budget; if they can find it, it should be possible to evaluate the BGS this spring. That would be the SCT's preference, he said. The bottom line is that the FY'04 CRFM budget is

now down to bare bones, but we were still able to ensure that all time-sensitive and biologically significant line-items are moving forward in 2004, Hevlin said. However, any further cuts will have a major detrimental impact on the FY'04 program.

Silverberg noted that, the last time the IT met, they discussed the Ice Harbor RSW; it was agreed that the federal executives would be meeting to make a decision on that issue. Is there an update about the Ice Harbor RSW? she asked. It is still in the FY'04 budget and construction is moving forward in 2004, Hevlin replied – we're still planning to have it installed and operational by March 2005.

Are further cuts to the FY'04 CRFM budget likely? asked Tom Iverson. We don't know, but it's been that kind of a year, Hevlin replied. He noted that, in past years, the Corps has been willing to adopt a forward-leaning CRFM budget, in the expectation that at least a percentage of savings and slippage would be restored to the CRFM program later in the year. They have now changed that policy, said Hevlin, and are no longer willing to overprogram. That's a bit of a worrisome change, he said.

E. TMDL Update. No TMDL update was presented at today's meeting.

3. Summer Spill – Options and Offsets.

BPA's Suzanne Cooper said today's presentation had also been provided to the Power and Conservation Council on January 21, and to TMT yesterday. She noted that, last spring, the Council passed their mainstem amendments; one of their recommendations was that the action agencies evaluate whether or not the biological benefits provided by the current summer spill program could be provided through other, less-costly means.

Last summer, executives from BPA, NOAA Fisheries and the Corps issued a joint statement, articulating a goal of "[having] a method in place by next year to ensure that biological benefits are met in the most cost-effective manner available." Since that statement was made, said Cooper, we have been working on several fronts to see whether this objective could be achieved. We have been working with CBFWA's spill subcommittee since October, looking at various evaluation options; we have also participated in many Regional Forum discussions about potential alternatives for the management of the summer spill program. We have also done some analysis of the relative biological and economic impacts of half a dozen spill alternatives, Cooper said, looking at the benefits of various mitigative actions and offsets. The results of that analysis were presented to the Council on January 21, said Cooper, adding that the comment period on the analysis ends February 13 [later changed to February 20]. Our goal today is to present the analysis to you, to help you formulate your written comments, she said.

Cooper then provided an overview of the economic portion of the analysis, beginning with the range of summer spill alternatives evaluated:

1. Full BiOp spill in July and August
2. BiOp spill in July and August/no spill at Ice Harbor
3. BiOp spill in July-August 15/no spill at Ice Harbor
4. BiOp spill in July/no spill in August
5. BiOp spill in July except test 50 Kcfs v BiOp at Bonneville/no spill in August/no spill at Ice Harbor
6. BiOp spill in July except test 0 Kcfs v. BiOp at Bonneville/no spill in August/no spill at Ice Harbor/no spill July-August
7. No spill in July or August

Cooper devoted a few minutes of explanation to the thinking underlying these various alternatives; she noted that the ultimate decision about the 2004 summer spill program will be made by the Regional Executives some time in March.

Cooper then yielded the floor to Kim Fodrea, who led the group through the biological analysis included in the summer spill evaluation. She distributed a document titled, "General Overview of Methods Used to Estimate Impacts of Summer Spill Reductions,"noting that the modeling assumptions developed for this analysis were developed through a collaborative BPA/NOAA Fisheries/COE effort. She went briefly through this document, explaining that, in general, to calculate the expected impacts of these operations, the number of fish in each affected stock was multiplied times the average percentage migrating in July and August times the delta in survival rates for each operational alternative to get the estimated survival impacts of each alternative.

Fodrea noted that the juvenile hatchery fish number estimates came from the PAC analysis, while the wild fish number estimates came from NOAA Fisheries' 2003 estimates. She discussed how the calculations of the percentage of each stock migrating in July and August were developed.

Howard Schaller asked how the techniques used in this analysis mesh with the techniques used to develop recovery rates, which are never presented in average distributions. The variation around those rates is a key consideration, he observed. We did consider including low and high estimates, Fodrea replied; however, in my opinion, that wouldn't be very informative for decision-makers. This is our best estimate of what is expected, she added. Still, if you were trying to provide a deterministic black-and-white answer, you would normally use an average distribution, Schaller said. Why was the choice made to use a deterministic model, when the best you can do in this situation is to say "I think the probability of this outcome is such-and-such?" Schaller asked. Was there a reason you chose to go this way?

First of all, I don't agree that this is a deterministic answer, or that it's trying to say we absolutely know that these are the numbers of fish coming back, Fodrea replied. This is a tool to provide a ballpark estimate of what the impacts of these operations might be. The other thing to bear in mind is that we have a number of alternatives, and we're looking at the relative impacts between them, said Suzanne Cooper – we don't view this as an absolute judgement of the fish numbers you would expect to see. Schaller replied that, in his view, that makes some sort of

decision analysis framework even more important.

Would it be difficult to add a high-low range back in? Tony Nigro asked. There is a variable in this analysis that the group agreed showed a reasonable range of possible outcomes, Fodrea replied – the smolt-to-adult return rate (SAR). We felt that any potential variability ought to be captured in the range of SARs included in the evaluation. Fodrea noted that a more detailed presentation on the SAR ranges was included in her presentation to TMT yesterday. Bill Maslen reiterated that this analysis assumes an average or near-average water year in response to current water supply forecast information. Still, the shape of how that average water comes off could have a profound impact on migration timing, Schaller observed. True, but much less so in July and August, when most of the snowmelt has already occurred, Maslen replied.

Is there a way to capture, within the analysis, the range of risk associated with these potential operational changes? Bruce Suzumoto asked. Again, I believe that is captured in the range of SARs included in the evaluation – from 0.5 to 4.0 percent, Fodrea replied.

Schaller noted that he and his staff have a large number of questions about the analysis, the assumptions used to develop it, and the conclusions it reaches. Michelle DeHart observed that a written document explaining the selection of all the assumptions and rationalizations that went into the summer spill evaluation would help to resolve this issue. Generally, in these types of decision analyses, there is such a document, so that there is a written record and so everyone is responding to the same information, said DeHart; that way, the caveats don't get lost. I realize that what we've provided may not be perfect, Fodrea replied, but I would argue that at least 90 percent of what you're talking about is there, if you take the time to look for it.

Fodrea noted that all of the materials presented today, including the functional Excel spreadsheet files, are available via hotlink from the February 4 agenda on the TMT homepage.

The group also offered a series of detailed questions and comments about the flow (the sensitivity of the SIMPAS model to flow ranges) and transport assumptions underlying the analysis. Fodrea reiterated that this analysis anticipates that 2004 will be a near-average water year, so average flow assumptions are germane; it also anticipates that the full BiOp transportation program will continue to be implemented.

Fodrea then moved on to the results, in terms of survival estimates for each stock, under each of the alternative operations, and the assumptions and calculations underlying those results. What this is calculating, basically, is July and August fish survival for each of these stocks, Fodrea explained. The bottom line, in terms of estimated adult impacts to listed stocks, based on a 2 percent SAR, is that none of the operational alternatives considered in the summer spill evaluation, including zero spill in July or August, is estimated to result in a decrease in adult survival of greater than 1%.

Schaller said one thing that needs to be stated about these numbers right off the bat is that everything will be profoundly influenced by the estimates of migrating juveniles – that's one

thing you didn't mention, he said. Did the source of your estimates for those starting numbers include a range? one participant asked. I'll have to check with our Science Center, Ruff replied – these numbers are based on the 2003 estimate. There are actually two issues with those estimates, Schaller observed – first, the uncertainty of that prediction, and the range of starting populations from year to year. There is no reason to say it will be the same in 2004 as it was in 2003, Schaller said. And that wasn't our intent, Cooper replied – we're simply starting with the most up-to-date information we have. Perhaps to clarify that point of the analysis, you could either include a range in that column, or be clear that the numbers are taken from a given year, Silverberg suggested. The point that both the TMT and now the IT have made is that, while you may know that it's a range, if someone doesn't understand the context, these numbers look like a certainty, Silverberg said.

DeHart observed that risk isn't just a number. If the juvenile population you're starting out with is very small, she said, then the loss of a single adult can be very important. Numbers don't equate to risk for a given population, said DeHart. Another thing that is missing from this analysis is, how important are these estimated survival impacts to the recovery of these stocks? Schaller said.

Cooper then moved on to the expected revenue impacts of each of these alternatives, based on a $36/MwH average price:

Revenue Impacts of Summer Spill Alternatives

Spill Option	**Annual savings Compared to BiOp in millions (50-yr average)**	**Annual savings range compared to BiOp in millions (low-high)**
1	$0	
2	$8	$5-11
3	$26	$15-32
4	$42	$25-50
5	$51	$30-61
6	$54	$32-64
7	$77	$55-92

To be clear, said Nigro, these numbers are not actually an expense to Bonneville – they are an estimate of the potential revenue Bonneville foregoes because the water that is spilled is not used to generate power, and are not numbers based on power BPA has to buy on the market as a result of the spill program. I think the way this analysis was done, these numbers represent foregone revenue only, although Bonneville does sometimes have to purchase power to meet load during the BiOp spill season, Cooper replied.

DeHart noted that there is a major disconnect between the way the fish impacts and the

revenue impacts have been analyzed in this study. Fish distribution, and the impacts on fish, are going to be much higher in a low-flow year, DeHart said. Fodrea reiterated that the objective of this evaluation was to estimate those impacts in an average water year, which is what, to date, the 2004 forecasts are pointing to. But this whole thing fits together in a bad way, DeHart said – a decision-maker is going to look at these biological and revenue impacts, and try to put them together.

The analysis of the fish impacts and the revenue impacts need to go together, or else you need to provide an analysis of how you see them fitting together. You're saying that the revenue impacts need to be expressed in terms of expected 2004 water supply and prices? Cooper asked. What I want is a written description of both the biological and the revenue portions of the analysis, and I would like to see the biological and revenue impacts expressed in the same terms, DeHart replied – otherwise, it seems as though you're trying to minimize the fish impacts and overstate the revenue impacts.

Iverson suggested that, rather than a single operational option, it might make more sense if the ultimate product of this analysis was some sort of a sliding scale spill operation, in which such factors as the strength and timing of the run and the size and shape of the water year would define the most appropriate spill strategy.

Following a break, Cooper clarified that the price range used to calculate the revenue impacts of spill was based on a 50-year system model study using AURORA model energy prices of $15-$42 per MW/h in July and $30-$48 in August. Ruff also noted that today NOAA Fisheries received two letters on the summer spill evaluation, one from the Columbia River Inter-Tribal Fish Commission and one from the Nez Perce Tribe. Ruff distributed copies of both letters to the group.

John Palensky then discussed the outputs of the offsets subcommittee, which he has been chairing. The offsets subcommittee is an offshoot of the spill committee set up under CBFWA auspices; its charge was to define and evaluate various mitigation measures to offset the anticipated impacts of any reduction in the summer spill program. The group established a series of seven principals to guide their efforts, including implementation feasibility, temporal consistency and the fact that any offsets needed to be over and above existing BiOp measures. The group then developed the following list of potential offset measures:

- Increased Northern pikeminnow management
- Increased smallmouth bass management
- Unneeded pile dike removal to reduce predation
- Reductions in commercial harvest
- Hanford Reach rearing protection
- Avian predation research
- Habitat improvements

The group considered other potential offsets, which, for various reasons related to the principals established by the group, were considered not feasible, at least for implementation in

2004:

- Marine mammal management
- Walleye management
- Increased law enforcement
- Habitat improvements, including estuary
- Hatchery supplementation
- Raised spillway weirs
- Dam removal
- Reservoir drawdowns
- Reintroduction of fall chinook above Hells Canyon Dam
- Additional O&M funding
- Manage turbine operations to maximize passage survival

Palensky said that, ultimately, the group will make a recommendation to Bob Lohn as to what measures should be implemented; he reiterated that the Regional Executives are expected to make a decision on this issue some time in March.

The IT offered a few clarifying questions and comments. Palensky then encouraged the IT participants to look closely at the offset measures under consideration and to provide any comments they may have prior to February 20. NOAA staff will then look at those comments and incorporate them into our recommendations to Bob Lohn.

Silverberg reiterated that comments are due to NOAA Fisheries on the summer spill analysis by February 20. Written comments should be submitted to BPA Communications, DM-7, PO Box 14428, Portland 97209.

Where was your calculation of the ultimate reduction in loss associated with the avian predation offset derived from? asked Schaller. It's based on information contained in the USFWS EIS, in the Caspian tern work group, Bill Maslen replied. Palensky read the relevant passage from the research description. We won't know the ultimate reduction until the research is complete, said Jim Athearn – whatever the benefits, they won't accrue until somewhere down the road. Schaller said that, in his opinion, the assumed benefits of this measure are very misleading. And we realized that, temporally, this measure yields less direct benefit in the short term, Palensky said – however, it will yield benefits down the road, if this research is properly funded. Nigro observed that all of the predation reduction assumptions in this presentation need to be taken with a grain of salt, particularly the assumptions about smallmouth bass, because it is much more difficult to quantify the impacts of smallmouth bass on anadromous juveniles than it is to quantify Northern pikeminnow impacts, for example. Getting our arms around the potential benefits of these offset measures is not a simple matter, he said, and we'll need to work together.

To me, it seems incredible that, if we can reap such huge benefits from offset measures that cost $1 million or less, that we're not already doing them in addition to summer spill, said Iverson. In a world in which resources were unlimited, that might well be the case, Cooper replied. Unfortunately, that is not the case, and there are policymakers in the region who feel

that summer spill is a very costly operation, and we have little or no data about its benefits. The point of this exercise is to see if we can provide similar benefits to the summer spill program at a lower cost, and that's why we're evaluating these offset measures, Cooper said.

The group also discussed the habitat improvements offset measure; Cooper clarified that she cannot commit Bonneville to providing a specific amount of additional habitat improvement funding, although that may be possible.

Athearn noted that today's presentation, and yesterday's presentation to TMT, was an effort to close out the technical discussion of the summer spill analysis so that it can move on to the executive level. He noted that executive-level discussions are ongoing among the federal agencies, states and tribes to obtain higher-level input from those entities. The ultimate decision on the 2004 summer spill program will be made by the executives at a meeting in March, possibly on March 25.

Cooper said that, at yesterday's TMT meeting, Jim Litchfield asked that other Regional Forum participants look at, and provide comments on, the Libby and Hungry Horse reservoir operations included in the Council's mainstem amendments in advance of the March executives meeting, because Montana will be bringing that topic up at that time. Gary Berg of Montana said Montana's Governor does expect those operations to be a topic of conversation at the executives meeting.

Ruff said the federal agencies will need to sit down and, based on the comments that have already been received, map a way forward, including the best way to distribute the information people have said they need before they can provide more substantive comments.

Silverberg reiterated that CRITFC and the Nez Perce Tribe have already provided comment letters on the summer spill analysis. These letters have been posted to the TMT homepage, and are available via hotlink from the February 4 TMT agenda.

4. Next IT Meeting Date.

The next Implementation Team meeting was set for Thursday, March 4. Meeting summary prepared by Jeff Kuechle.